The Educational Weekly.

The Educational Weekly.

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Editorial.

THE very essence of education is reform. To educate, in the true sense of the term, is to elevate and improve. This is indeed the only means whereby either the individual or the race, or any portion of the race, can be raised from a lower to a higher estate. All just and legitimate processes and agencies employed in promoting morality and religion and human welfare in any direction are *educational* processes and agencies. The preacher of a purer and higher code of ethics, the apostle of an ennobling religious creed is, and must of necessity be, a teacher and an educator. He who in any manner, under whatever name, or in whatever sphere, successfully labors to make men better, wiser, and happier is an educator and reformer, and must accomplish his work through educational methods. That is to say, he leads men to a better knowledge and a better practice of that which is true and useful and ennobling. It is in this broad and comprehensive sense that we use the terms *education* and *educate*. And so, too, reform means to form again, to give a new form to; to amend; to correct. This amendment, correction, or improvement, can be effected only through methods that are purely educational, no matter whether the forces employed be spiritual or material, or both. If there be any such thing as a progress of the individual or of the race, that progress must be the result of a better knowledge and a better practice. It must come through a higher development of the *knowing* and *doing* faculties. This is education, no more, no less. And those institutions, agencies, methods, and processes designed to promote education are true or false, genuine or spurious, according as they do or do not harmonize with, and accomplish this supreme end.

Since the end of education is reform, so also its spirit and method should harmonize with that end. The management of its institutions and agencies should not be cursed with ignorance and incompetency, because it holds in its hands, to a great extent, the destinies not alone of individuals but of nations and races! The grand agencies for the promotion of enlightenment should ever themselves be permitted to bask in the sunshine of progress. As we have before suggested, the ultimate significance of every true invention and discovery is that it shall minister to the higher necessities of the race. As new increments are added to the sum of human knowledge they should be made available in the higher development of the human faculties. As new means and methods of increasing the resources and skill of the people are discovered and proved, the schools in which the people are trained should be the first to feel their influence and profit by their added power. There should be no neutrality in the warfare against ignorance and stupidity. There should be no stagnation in the educational life of a nation like ours. To stand still is to go backward. To go backward is to decay and perish.

The reforms imperatively demanded in our public schools have heretofore been alluded to in the columns of the WEEKLY. They are, 1. An utter abolition of the petty district system with its hordes of incompetent, inefficient officers and teachers, and the substitution of the township as the unit of organization, with the consequent reduction in the number of officials, the better gradation of the schools, and a far wiser discrimination in the choice and compensation of teachers. 2. A more general, thorough, and efficient supervision extending to every school and enforcing a rigid system of accountability and responsibility down to the minutest details of the work. 3. The absolute abolition of all corrupt and partisan methods of administration, by boards of education and others in charge of public institutions, and the introduction of a system of practice based solely on merit, securing permanency in tenure of office by teachers and superintendents, and strict and impartial justice in the management, in accordance with the true principles of a reformed civil service. 4. A rearrangement and adjustment of courses of study in strict harmony with the wants of the people, including plans and instructions in the arts leading to the great industries of life, otherwise called manual education. 5. An increase of normal schools corresponding with the vast extent of the public school system until they shall be able to supply to all the school-rooms of the land that skilled labor without which the school is a "delusion and a snare." 6. The reformation of these teachers' seminaries by holding them more rigidly to their special work of the professional training of teachers. 7. Making a certain amount of professional reading and study obligatory upon all teachers of less than three years experience, and shaping their examinations in accordance therewith.

Many other specifications might be added, but these will suffice for the present. Here are more reforms than will be effected, we fear, during the next fifty years. The sad fact is, we have too much ignorance, prejudice, and self sufficiency mixed up in our educational management to hope for any great results until we shall have effected a powerful popular uprising in the interests of a purer, wiser, better administration. If our schools are ever to fulfill the great ends of their existence, it will be only when

they shall be conducted solely in the interests of a higher morality and intelligence and in accordance with the principles of justice and right. To this end they must be thoroughly purged of incompetency. They must be guided, controlled, and instructed exclusively by those who have a proper conception of their true purposes, and not be left to the tender mercies of pretenders and charletans who have no higher motives than the greed of gain, the lust for power, or the empty honors of official position without the capacity to fill it, which is often but another name for the dignity of dullness. Whatever abuses, short comings, or malfeasances may be tolerated in other branches of the public service, the educational service should be unmistakably wise, honest, and pure. In it there should be neither sinecures nor supernumeraries, neither dead-heads, dead hearts, nor dead-beats. It should be no refuge for ambitious, incipient, or decayed politicians, or politicians of any sort. It should rather be the embodiment of the highest intelligence, the purest morality, and the best executive ability that the country possesses. Then will education-reform become the prophecy and pledge of every other reform.

The problem of manual education in connection with our public schools is undoubtedly on the eve of a successful solution. The quite general introduction of drawing, and the almost universal admission of its educational value, are indications in the right direction. But what is still more significant is the fact that it is beginning to be understood that the trades, so called, are all founded upon arts corresponding with and leading directly to them, and that these arts may be taught to classes in the same manner as drawing, music, or painting, *through a graded series of examples.* The Imperial Technical School at Moscow was the first to show that it is best to teach an art before attempting to apply it in the corresponding constructions. The art is first learned both theoretically and practically, and the student is then prepared to enter the construction shop where his art knowledge is applied, or in other words, the trade is mastered. The principle is *instruction in the arts for the purpose of construction, and not construction for the purpose of instruction,* as under the effete apprenticeship system. As President Runkle says: "This method is not only educational, but it constitutes the only true and philosophical key to all industrial education. If we can formulate into an educational method the arts which apply in any particular industry, we have only to group about these art-courses such other subjects of study as obviously pertain to this industry, to have a scheme which shall most surely and directly fit the student both in theory and practice, to enter upon its pursuit.

The ground upon which to justify the introduction of this manual element into our public schools is purely and solely that of its educational value to all. And this ground is all-sufficient, irrespective of its practical utility in after life, to the industrial classes. The disciplinary value of this art training would be worth a hundred fold more to the pupils in our schools, than so much senseless memorizing of the abstract definitions and rules of grammar, the dry details of geography, and some other subjects that engross a large share of their time. Any one of these arts leading to a trade may be mastered under systematic instruction in a few months, and it is safe to affirm that this kind of instruction introduced under proper regulations, and the guidance of competent hands, would give a zest and value to the purely intellectual studies now scarcely known to the average pupil. It has already been clearly established, for example, that drawing well taught in a school, by its influence upon the perceptive and observing powers, and by the aid it contributes in the mastery of other branches, saves more time than is occupied in teaching it. There is no doubt that similar results would be realized from the introduction of this manual instruction under intelligent and skillful direction. It would cultivate the power of mental concentration as well as manual dexterity. It would sharpen observation, strengthen the memory, and generate an enthusiasm that would powerfully affect the other studies, and double or quadruple the aggregate results of our school work. We expect to see public attention directed to this subject until discussion shall result in practical and decisive action.

THE OLD AND THE NEW.—IV.

Supt. H. F. Harrington, New Bedford, Mass.

THE old system as I have said, rated *arithmetic* as the most important of grammar school studies, and gave it from a third to a half of the school time. What changes have been accomplished in this regard, and why?

The new system enthrones *language* in the foremost place of honor. For the power to understand readily the thoughts of others when spread out on the printed page, and to express one's own thoughts intelligently, accurately, and freely, in speech and with the pen, are the most important of all attainments. Arithmetic must not be undervalued—but in positive usefulness, language outranks it, and should outrank it in the order of school studies. Most of the arithmetical operations with which the vast majority of men and women have to do in the affairs of life are of the simplest kind, easily comprehended and practiced; and there are multitudes who would gladly exchange the profit that has accrued to them from incessant drill in arithmetic when at school for that command of language which would save them from stupid blunders and halting incompetency in the expression of their thoughts.

What means have been adopted to impart this ennobling command of language? First of all, the exercise of *reading* has been transferred from the foot of the list of studies to the head of it; and as great an amount of reading is accomplished as it is possible to accomplish without injustice to other branches of study. It is recognized that familiarity with words, in their true significance, as symbols of thought, must necessarily be directly proportioned to the amount of reading which may be intelligently brought to pass.

By an increased amount of reading I do not mean that more time than before is spent on the pieces in the prescribed series of reading books. By no means. I have already characterized the limitation of the provisions for reading purposes to the authorized text-books as one of the grossest mistakes of which school authorities were ever guilty; and it is still in vogue—more's the pity!—in numberless schools. Think of it!—A single octavo volume of moderate size comprehends all the reading matter provided for a scholar for a long year or more. Moreover a good part of the contents of these serial reading books, especially of the volumes adapted, (Heaven save the mark!) to the higher grades, consists of didactic essays or sublimated forensic speeches having no relation to a child's thought and sympathies; and the interesting portions have been privately read and have become well known, long before they serve their office in the prosy, formal exercises of the reading class; so that they are at length as stale as bread that has been kept until it is mouldy, and are as little calculated to whet the curiosity of the mind, which is the

normal medium of its improvement, as such bread is to stimulate physical desire.

No—the authorized text-books are serviceable for purposes of drill, but for the best uses of the reading exercise, for the acquisition of a full and free vocabulary, for mastery of the forms of expression, for storing the mind with varied information, for whetting the reason into thoughtful activity, for inspiring a taste for pure and improving literature, books must be provided that are not a hodge-podge of scraps, but that are wholes in their subjects, and are of the most interesting character, adapted to the minds which are expected to profit by them—books of travel, biography, imagination, history, or whatever else is calculated to enlist the sympathies and fix the attention of a child. I verily believe, as the outcome of years of familiar observation of schoolwork, that if FULL ONE HALF the school time were devoted to the reading of such books, the intellectual product of schooling would be far greater than is effected now!

Of course the new methods put a summary extinguisher on the practice—that wicked perversion of the legitimate objects of the reading exercise—of systematically limiting the class reading to a few rhetorical pieces, for the sake of attaining special grace and finish in modulation. The triumphs of expression thus obtained are purchased at too dear a cost.

Moreover, the time once spent in drill on the technicalities of grammar and in the fool's business of interminable parsing, has been greatly abridged; and grammar has been established in its rightful position as the attendant, not the pioneer, of language. Spelling, too, is taught according to the common sense principles set forth in my last paper; and the art of composition, in various forms adapted to a scholar's age and degree of attainment, is made an instrument of constant and priceless advantage.

Such are the reforms which have been instituted in the best of modern schools in relation to instruction in language. The chief obstacle to the rapid extension of these reforms is the cost of supplies of books to supplement the ordinary reading books. But in this as in all things else, the old adage applies, "Where there is a will, there is a way." My own schools—God be praised! have an ample fund to draw upon for such supplies, and are testing the new methods under the most favorable auspices.

What changes have been brought about in relation to the study of arithmetic? It has been dislodged from the foremost place, but is not in any true sense, either undervalued or neglected. The time once devoted to it has been curtailed only by discontinuing those details of the study which have been proved to be useless, or which unduly abridged the opportunities that other important studies should enjoy. *In the first place*, all those exercises have been eliminated which were carried on purely for the sake of the drill they afforded; *second*, all duplicate modes of arriving at the same results; *third*, all processes which, however theoretically valuable, are seldom or never called into requisition in the affairs of life; *fourth*, all ciphering—that mere mechanism—beyond what is necessary to illustrate principles and to form the habit of exact performance; *fifth*, all practice on questions in abstract numbers. (The Prussian school authorities, by the by, expressly forbid such practice, justly characterizing it as a useless fatigue of the brain); and once more, there is a cessation of effort—once so labored, yet so useless—to make the scholars of the lower grades thoroughly understand such of the processes by which their slate work is performed, as may be beyond their capacities at the time when these processes are necessary for their practice and advancement.

Here is a margin for curtailment of the excessive amount of time once devoted to this study, without the slightest abridgment of its useful details. An incalculable advance toward right instruction in this or any other study has been made, as soon as intelligent and definite conceptions have been formed of the purposes which it is to serve. The study of arithmetic is intended, *first*, to acquaint the scholar with the relations of quantity to practical life, so that he will be prepared to transact business properly; *second*, to cultivate the habit of attention; *third*, to cultivate the habit of accuracy in mental processes. A triumph when so much as this has been successfully achieved!

There is another advantage accruing incidentally from the study of arithmetic in its advanced stages. The analysis and statement of problems, intricate enough to be tasking, is a process of pure reasoning. It calls into exercise the highest faculties of the mind; and there is no instrument of mental discipline in the whole range of ordinary study, that is more directly and healthfully effective. The more of such work where time can be afforded, the better. But it is to be remembered that this advantage *has nothing to do with the ciphering which effects the solution.* That, except where other objects are to be served by it, may as well be omitted.

I have thus far made comparisons between the old and the new ways in relation to reading, spelling, grammar, and arithmetic. Geography and history remain to be considered, and radical changes have been found necessary in the methods of instruction in these branches, as well as in the others that have been named.

Geography, in past years, was wretchedly mistaught. The text-books, in the first place, were as faulty as could well be imagined. They were constructed on no philosophical principles, being made up in good part, of a mass of disconnected facts and of unimportant map questions. Bald rote work being the prevalent mode of instruction—that is, assigning lessons and hearing them recited—these faulty manuals were slavishly adherred to, and the minds of the scholars lumbered up with their crude, heterogeneous matter. The positions of innumerable places were required to be memorized without a word about their history, causes of being and growth, commercial relations, or any other particulars of that information which would invest them with impressive character and associations. The names and positions of mountains, lakes, and rivers, too, were to be learned in like manner, without reference to their uses and value in the economy of nature, and of human intercourse and civilization.

Such ill-assorted, unintelligent details were of little worth; and good schools have broken away from this stupid routine. Their teachers are now required to enter with appreciative spirit and earnestness into those intelligent principles of the science of geography which have been the inspiration of all renowned physicists; giving a fruitful quality and life to their instructions. The text-book statements are analyzed and illustrated that there may be accurate conceptions of the facts involved; fields of intelligence outside the prescribed limits of study are levied upon for additional information; and all specific details are examined in the light of the great general laws which alone can invest them with interest and importance.

History was taught in the same slavish submission to memoriter routine as geography. Useless facts and dates cumbered the memory. The application of philosophical principles to the study have wrought a marvelous change in results.

In my next and closing paper, I shall speak of the new studies introduced into modern schools.

DICTATION DRAWING.

Prof. L. S. THOMPSON, Purdue University.

LESSON XXXIV.

Draw an erect square each side one inch. Draw straight lines as follows: from the right upper corner upward one inch, right one inch, and then back to the right upper corner; from the right lower corner toward the right one inch, downward one inch, and then back to the right lower corner; from the left lower corner downward one inch, left one inch, and then back to the left lower corner; from the left upper corner toward the left one inch, upward one inch, and then back to the left upper corner.

Remarks.—The result of this lesson will be an erect square with a right angled triangle at each corner. By a slight change in the language, the triangles may be reversed.

LESSON XXXV.

Draw an erect square each side one inch. Draw straight lines as follows: from the right upper corner upward one inch, left one inch, and then back to the right upper corner of the square; from the right lower corner toward the right one inch, upward one inch, and then back to the right lower corner of the square; from the left lower corner downward one inch, right one inch, and then back to the left lower corner of the square; from the left upper corner toward the left one inch, downward one inch, and then back to the left upper corner of the square.

Remarks.—The result of this lesson will be an erect square with a right angled triangle at each corner, but in different positions from those in Lesson XXXIV. By a slight change in the directions, the triangles may be reversed.

LESSON XXXVI.

Place dots as in Lesson XXI. Then place another dot one inch above the left dot and one inch to the left of the upper one; another, one inch above the right dot and one inch to the right of the upper one; another, one inch below the left dot and one inch to the left of the lower one; another, one inch below the right dot and one inch to the right of the lower one. Draw straight lines as follows: a straight line from the dot half-way from the centre dot to the upper one, through the centre, to the dot half way from the centre dot to the lower one; another, from the dot half-way from the centre dot to the left one through the centre, to the dot half-way from the centre dot to the right one; another, from the right upper corner to the dot half-way from the centre dot to the upper one; another, from the left upper corner to same dot as for the last line; another, from the right upper corner to the dot half-way from the centre dot to the right one; another, from the right lower corner to the same dot as for the last line; another, from the right lower corner to the dot half-way from the centre dot to the lower one; another from the left lower corner to the same dot as for the last line; another, from the left lower corner to the dot half-way from the centre dot to to the left one; another, from the left upper corner to the same dot as for the last line.

Remarks.—A four pointed star will be the result.

LESSON XXXVII.

Place a dot at the centre of the space to be used. Place another one, one inch above the centre; another, one inch to the left of the centre; another, one inch below the centre; another, one inch to the right of the centre. Draw straight lines as follows: a straight line from the upper dot to the left one; another, from the upper dot to the right one; another, from the left dot to the lower one; another from the right dot to the lower one; another, from the upper corner of the square, upward one inch; another, from the same corner toward the right one inch; an oblique line, joining the open ends of the last two lines; another, from the right corner of the square toward the right one inch; another, from the same corner downward one inch; an oblique line, joining the open ends of the last two lines; another, from the lower corner of the square, downward one inch; another, from the same corner toward the left one inch; an oblique line, joining the open ends of the last two lines; another, from the left corner of the square, toward the left one inch; another, from the same corner, upward one inch; an oblique line, joining the open ends of the last two lines.

Remarks.—The result of this lesson will be an erect square, with a right angled triangle at each corner. By a slight change in the dictation the triangles, may be reversed.

LESSON XXXVIII.

Place dots as in the last lesson. Draw straight lines as follows: a straight line from the upper dot to the left one; another, from the upper dot to the right one; another, from the left dot to the lower one; another, from the right dot to the lower one; another, from the upper corner, of the square, upward one inch; another, from the same corner toward the right one inch; another, from the right corner of the square, toward the right one inch; another, from the same corner, downward one inch; another, from the lower corner of the square, downward one inch; another, from the same corner, toward the left one inch; another, from the left corner of the square, toward the left one inch; another, from the same corner, upward one inch; an oblique line, joining the open ends of the two upper vertical lines; an oblique line, joining the open ends of the two right horizontal lines; an oblique line, joining the open ends of the two lower vertical lines; an oblique line, joining the open ends of the two left horizontal lines.

Remarks.—This drawing contains the same number and the same kinds of lines as Lesson XXXVII. Owing to the different positions of the oblique lines, the results are quite different. By a slight change of the directions, this last drawing may be reversed.

LESSONS TO BE DRAWN FROM THE HISTORY OF THE PUBLIC LAND SYSTEM OF THE UNITED STATES.

J. L. PICKARD, Chicago.

[*Third Paper.*]

THE value of the Land Grants cannot be determined, nor the annual income that is derived from the same as far as sold by the states.

Some indication may be derived from the sales of scrip issued in pursuance of the act of 1862, for the establishment of Colleges of Agriculture and the Mechanic Arts. This land scrip could be located any where by states that had not within their borders lands enough valued at $1.25 per acre to meet the grant. The figures are taken from the Cyclopædia of Education by Kiddle and Schem.

	Acres sold.	*Fund derived.*
Arkansas, entire	150,000	$130,000
Alabama, entire	240,000	253,000
Connecticut, entire	180,000	120,000
Illinois, in part.	455,000	319,000
Indiana, entire.	390,000	212,238
Kentucky, entire	330,000	165,000
Maine, entire.	210,000	134,000
Massachusetts, entire	360,000	170,000
Michigan, in part.	74,846	221,377
Minnesota, in part		256,637
Missouri, in part	130,000	54,749
New Jersey, entire	210,000	116,000
New York, entire.	990,000	601,199
Pennsylvania, entire.	780,000	395,267
Rhode Island, entire	120,000	50.000
Tennessee, entire.	300,000	268,909
Vermont, entire.	150,000	122,626
Virginia, entire.	300,000	95,000
West Virginia, entire	150,000	190,000

If the specimens thus given can be relied upon, it appears that some states have fared much better than others in the location of their lands or in the sale of their scrip. The states which have withheld their scrip from sale will probably realize more than if it had been offered at a time when the market was flooded as it must have been within the first ten years after the passage of the act of 1862.

At the average rate of sale as given above, the entire Agricultural College Grant will realize a little less than $7,000,000. The entire Educational grant direct to the states and indirect by the use made by the states of lands whose specific use was not designated will at the same rate produce a fund of less than $67,000,000.

If to this be added the direct money grants that are known to have been used as an educational fund, namely, such as come through the five per cent of the net proceeds of the sales of Public Lands and through the United States Deposit Fund of 1836, the present and prospective funds donated by the United States Government for educational purposes of all kinds will be not far from $86,406,256.66. This fund will yield at seven per cent interest $5,848,438; a sum apparently large but little more than twelve and a half cents to each inhabitant of the United States, or less than 40 cents for each pupil of the school population.

The thought which seemed to prevail for a time that the original gift of the 16th section would support the schools of the township appears to be without much foundation. And yet it has served a pupose far beyond its own power in the encouragement it has given the people in providing for themselves the means of education. A little assistance at an opportune time is of immense value. The Peabody Education Fund is a case in point. The question recurs: Has the U. S. Government done all it can in pursuance of the notable provis-

ion in the ordinance of 1787? Has it done all it ought in [making effective for its own good the Constitutional Amendments whereby an immense illiterate constituency has been created in parts of the Union? Since 1862 no additional help has been given to those who have labored in the interests of education, except the small amount given through the Freedman's Bureau. Railroad Subsidies have been lavishly granted. The material resources of the country have been developed by consequent settlement. Railroad lands have been pushed into market and strenuous efforts made to secure their sale. The result is a rapidly settled but very sparsely settled country. So far it is good and looks toward ultimate benefit to the productive interests of the country. But what avails increase of population if it grow up in ignorance and add to the dangers which spring from illiteracy? Part of our increase, which comes from foreign lands, does not realize to its full extent the importance of the *general* diffusion of intelligence. The native population transferred from the older to the newer states, weakens the ability of the places they have left, and, being more widely scattered, has less ability than before in carrying on the needed school agencies. Opening up a new country takes means, and often mortgages the future. These immigrants both native and foreign are of the most enterprising class, and with little encouragement will make the waste places productive and will add to the material prosperity of the country, if their labor be coupled with intelligence and their intelligence be enforced by virtue. Many of our statesmen think that the limit of benefit from land subsidies to railroads and other internal improvements has already been reached. Many are fearing the dangers that flow from an increasing illiteracy. The cry comes up from all quarters: "We must have compulsory education bills." From the people, for whom such legislation seems necessary, is heard the plea —"We are unable to do more than we have already done for the support of schools." In many impoverished communities, in many sparsely settled places, are found willing hearts. They need but a word of encouragement. The means of such encouragement are at hand. Our Revolutionary patriots understood its value. Later, Mr. Clay in his wise statesmanship attempted, through successive national legislatures, to render still further encouragement, making education the first object to be aided in the disposition he would have made of the net proceeds of land sales. In 1848, at a time when the attention of liberal men who struggled vainly at home for popular rights was turned toward America, the Government met the intelligence of those who sought freedom upon our shores, by doubling her reserves for common schools.

Still later, when the nation was struggling for very existence, a call was made for assistance in furnishing the means for a better industrial education, and the Agricultural College Grants were given. And now with a preserved and united country, with an enlarged constituency mainly poor and uneducated, with a suddenly expanded settlement, wherein is needed for improvement every cent that can be saved by the strictest economy, there comes up an appeal for help; help, too, within the power of the nation to give. Senator Hoar's Bill now before Congress is in answer to this call. It proposes no *national control* of school systems; such attempted control would be unwise and disastrous. It proposes the help needed in an opportune way, at an opportune moment. It makes provision for the little aid which gives vigor to those who are already doing their utmost and perhaps losing strength because the little help they need seems not to be at hand.

With the net proceeds of Public Land sales set apart in perpetuity for the use of the states in furtherance of education of the people, the direct benefit will be enhanced by the indirect saving from corruption incident to and inseparable from "Land Grabs."

PUBLIC HIGH SCHOOLS.

PRIN. B. M. REYNOLDS, New Lisbon, Wis.

WE have been highly gratified with the answers of Prof. Boltwood to the objections of Dr. Fowler to public high schools, and especially with his answer to the first objection.

It is intimated by Prof. Boltwood, and rightly, too, we think, that, if the state has a right to tax the people to maintain schools in which the alphabet shall be taught, she has a right to tax the people to maintain schools in which algebra, geometry, or any other branch may be taught. This, it seems to us, is the right view to take. If the state has a right to tax a man to support primary schools, it has the right to tax him to support high schools. To state the case differently, any argument that may be urged against the right of the state to support a high school, may, with equal propriety, be urged against the right to support a primary school; and this, I presume, is broader ground than Dr. Fowler would be willing to take. When the opponents of high schools insist on the maintenance of primary schools, they yield, we think, the whole question in dispute. To deny the right of the state to maintain high schools is to deny her right to maintain primary schools. In defending public high schools, their friends should not leave this point unconsidered. If the state has a right to educate the people in any respect, she has a right to educate them in all respects, provided she does not infringe upon the rights of conscience. She may, therefore, with perfect propriety, prescribe the extent to which the education shall be carried.

There is developing in various parts of the country a growing hostility to public high schools. This hostility is the combined result of many causes. There is the opposition from various religious denominations, an opposition increased, perhaps, by the warfare made by free religionists upon all religious exercises in the public schools; and this opposition is becoming greater and greater just in proportion as the schools become secularized. Many taxpayers are very strong opponents. There is an aristocratic element also in hostile array, and when the friends of high schools insist that the pupils in them are from families that are poor, or in moderate circumstances, this hostility is the more intensified. The parents of those children that fail through lack of qualification to gain admission to these schools, or fail to maintain their rank after gaining admission, look upon them with no friendly eye. Many college, academy, and private school men may be regarded as not very friendly even if they are not absolutely hostile. There may be still other causes of opposition.

Some take the ground that the scholarship in the high schools is not so broad and liberal as in the academy, and hence their opposition.

There is an opposition on the part of many resulting from their failing to comprehend clearly the aim and the function of the high school. To which class of opponents Gov. Robinson, of New York, should be assigned, we are unable to tell. His opposition may result from various causes. He is the chief magistrate of a great and growing state, and yet he puts himself in opposition to the very means by which she has in large measure attained her commanding eminence. Did we not fully recognize the force and the propriety of the Scriptural injunction not to speak evil of dignities, we might condescend our own dignity in giving free expression to our opinion of the opposition of Gov. Robinson.

We suspect that another cause generating hostility to public high schools is an increasing conviction in the minds of many that these schools lack stability and a steady line of policy. Here is a strong point, one not to be treated lightly, but one that should arrest the serious attention and careful consideration of every friend of this grade of schools. They are unstable and unsettled in their policy and aim. When parents place their children in these schools, they are by no means sure that they can go on in a certain curriculum under the same corps of teachers, or whether the curriculum and the teachers as well as the text-books and policy of the school will change several times while they are members of the classes. Many high schools are under the control of boards that have few qualifications for their trust; and they are quite as likely to employ a poor principal as a good one; to establish a poor curriculum of study as a good one; and if there is already in the principal's chair a man fully competent to fill the position with dignity and efficiency, they are uneasy until they are rid of him, and another principal, more like themselves in qualification and character, is substituted in his place.

The result is that many parents become dissatisfied with the public high school. This phase of the subject demands the earnest consideration of all friends of public education.

These public high schools, we firmly believe, should be fostered. They should be under the control of boards made up of men of intelligence, good judgment, of enlarged and comprehensive views of higher education. If the state furnishes aid to local boards for the maintenance of high schools, she should have a voice in the establishment of the curriculum, in the appointment of a portion of the board, and in deciding upon the principal's tenure of office.

The influence of the high school on the lower grades, as some one has judiciously remarked, is worth all they cost. They furnish an incentive to effort on the part of the pupils in those grades and a goal for their ambition.

The community in which there is a good high school is distinguished for its increased and increasing intelligence, its improved and improving moral condition, as well as for its broad and liberal views of culture and humanity.

All the friends of this grade of schools should unite heart and hand for their defense, improvement, and permanent existence.

LAKE FOREST ACADEMY, LAKE FOREST, ILL.

NOTES BY THE WAY.

ONE of the most delightful resorts of the West is found at Lake Forest, in Lake county, twenty-seven miles north of Chicago, on the N. W. R. R. Its sylvan features, ravines, and lake front give it great natural beauty. Prof. A. R. Sabin has charge of the Lake Forest Academy. This is a deservedly popular institution for the education of boys. The alumni since 1863 have pursued a higher course in the following named colleges: Yale, Amherst, Williams, Dartmouth, Madison University, Chicago University, Cornell University, Wabash, Grinnell, Princeton, Racine, Monmouth, Berlin, (Germany), Harvard, Ann Arbor, Hanover, etc., to the number of 47. This is a good showing. Prof. Sabin is also superintendent of schools for Lake county. Many people take up a residence here in order that their children may have superior educational facilities and be away from the evil influences common to city life. Lake Forest University was recently destroyed by fire. Great loss was suffered. There is an effort being mode to have another building erected the coming year. Miss Martha H. Sprague is Principal at Ferry Hall, a school for ladies. It has one of the finest locations in the Northwest. The institution is well patronized. A full corps of teachers who are faithful and zealous in good works. Mr. Mahoney is principal of the public schools. He has two lady assistants.

Rock Island is one of the pleasantest cities in Illinois. It is located upon the east bank of the Mississippi river. Just opposite is the city of Davenport, built from the river's bank to the summit of the bluffs which rise in terraces as you leave the river. Supt. Everett is the energetic head of the school system at Rock Island. There is a corps of thirty-six teachers. Upon the whole the schools are above the average, and many of them are excellent. The teachers are well read. They read newspapers as well as educational journals. Prof. Parish, of New Haven, is principal of the high school. Prof. S. S. Kemble is an energetic teacher and has charge of one of the largest schools in the city. Miss Repine has a school the little members of which seem bound to hold the year round the "Banner Room" framed motto, which is kept by the school which has the fewest tardinesses. The teachers are alive to the subject of penmanship and drawing. Miss M. Josephine Bassett was at the time of my visit giving the teachers a thorough drill in perspective. Other cities will do well to write to Mr. C. E. Lane of Chicago to secure the services of this accomplished lady. The terms are most favorable. We had the pleasure of meeting here Gen. Newby, of Detroit, who is in the employ of Potter, Ainsworth & Co., of New York. The General is a fine penman and is making the introduction of Payson, Dunton, and Scribner a specialty.

At Moline, Supt. L. Gregory has charge. The school buildings are superior. The teachers are well paid. The teachers in the primary department are required to hold first-class certificates and are paid accordingly. There are about fifteen teachers in the schools. Miss M. A. Keyes, a graduate of the Aurora high school, is principal of the Moline high school. I wish the primary school teachers of the country could visit for an hour the primary school of the central building in Moline.

Notes.

LITERARY.—Robert's *Rules of Order*, published by S. C. Griggs & Co., of this city, is unquestionably the best manual to be had for the guidance of deliberative assemblies, of all kinds. The first part consists of a compendium of parliamentary law, based upon the rules and practice of Congress. Part II. treats of the organization and conduct of business, being a simple explanation of the methods of organizing and conducting the business of societies, conventions, and other deliberative assemblies. Fifteen thousand copies have been printed and sold within the brief period of two and a half years. A most remarkable and exceedingly convenient feature is a Table of Rules, so arranged that a presiding officer is enabled to decide two hundred common and important questions of parliamentary law without turning a page. The second part of the manual "is intended for that large class in every community who are almost wholly unacquainted with parliamentary usages and are not able to devote much study to the subject, but would be glad with little labor to learn enough to enable them to take part in meetings of deliberative assemblies without fear of being out of order." No society should exist in any school, village, or city, which does not have this volume at hand. Its completeness, clearness, and admirable arrangement commend it above all others, and render it simply indispensable to members of deliberative bodies Price 75 cents.——The April number of *Scribner's Monthly* contains an interesting article by George B. Prescott, Electrician of the Western Union Telegraph Company, on "The Telephone and the Phonograph," with explanatory cuts. American industry of recent growth is described by Julius Wilcox, in an illustrated paper—"How Lead Pencils are Made"—in which it is claimed that American machinery has rendered the home-made pencil superior to the foreign. C. B. Warring discusses the relations of the "Mosaic Creation and Modern Science," maintaining that there is no important discrepancy between the two.——If teachers want a good temperance drama for school or other exhibition, they can obtain it by sending fifteen cents to T. S. Denison, DeKalb, Ill., ordering one copy of "The Sparkling Cup."——James Vick, of Rochester, N. Y., publishes an *Illustrated Monthly Magazine*, which gives full and simple directions for the culture of flowers and vegetables. Price $1.25 per annum.——The Detroit *Evening News* is the crispest, newsiest, and in every respect the liveliest paper published in Michigan. It is also the cheapest, its daily edition costing the subscriber only five dollars a year. We prize it especially for its column of fresh and interesting state news.——The April number of *Lippincott's Magazine*, like most of its predecessors, is well filled with a variety of light and entertaining reading—just the kind most enjoyed by a tired teacher after a day's exhaustive labor in the school-room.——The March number of the *Educational Journal of Virginia* contains State Superintendent Ruffner's communication to the House in response to a resolution calling for information in reference to school superintendence in the counties. It is an extended an able argument in favor of the maintenance of that office in the state system of education.——Montreal sends out a new educational journal called *The Scholastic News*, monthly, one dollar a year; eight pages size of the WEEKLY. The first column on each page is given to advertising.——An important educational paper in *Harper's Magazine* for April is entitled "The Normal College of New York City," by W. H. Rideing, illustrated. Mrs. Sarah C. Hallowell also furnishes for the same number a fine sketch full of suggestions as to the physical and mental training of girls. This number of the Magazine contains over one hundred illustrations.——One of the best of the later collections of songs for Sabbath-schools is Prof. S. W. Straub's *Crown of Glory*, published by Jansen, McClurg & Co., of this city. The music is neither so simple as to be uninteresting nor so difficult as to be unattainable by the average Sabbath school. The words are carefully chosen, and the variety of pieces is such as to render the book serviceable for all occasions. One valuable feature is a series of responsive readings for every month in the year.——An essay of considerable interest has been written by Prof. F. W. Bardwell, of the University of Kansas, on *Methods of Arithmetical Instruction*. It is a kind of precursor or expositor of a more extended work on arithmetic soon to follow by the same author. Of course he censures the prevalent methods, else why make a new book? "The one fundamental defect of the present system of arithmetical teaching lies in the inaccuracies, the contradictions and vagueness inherent in the presentations of the first principles." The essay contains many good hints and well-founded criticisms. Published by G. P. Putnam's Sons, New York, and for sale by Jansen, McClurg & Co., Chicago, price fifteen cents.——Rolfe's editions of the plays of Shakspeare have been increased by the *History of King Henry the Fifth*, published by Harper & Brothers. Whether these little volumes are used in the class-room or as a pocket volume for the traveler, they will be found to afford an unusual amount of instruction and gratification, in the illustrations and copious notes contained in each. The explanations and definitions of antiquated terms are especially full, satisfying even the critical student as well as the ordinary reader. For sale by Jansen, McClurg & Co., Chicago.——The articles written by Francis A. Walker for the *International Review* on the late World's Fair (Philadelphia, 1876) have been reissued by the publishers, A. S. Barnes & Co., in a handy volume of 68 pages. Part I. treats of its Mechanism and Administration. Parts II. and III. of The Display. The work in this form becomes a valuable historical record, and will be prized by all who desire to preserve such a complete résumé of the subject, written by one competent to speak with authority.——Scribner, Armstrong & Co. have issued a series of volumes, termed "Epochs of Modern History," the last of which is *The Beginning of the Middle Ages*, by R. W. Church. It contains three maps, the whole presenting the history of Charles the Great and Alfred, and the history of England in its connection with that of Europe in the ninth century. The present volume is more properly an introduction or preface to the series than an integral volume. Its object is to present a general sketch of the

leading events of five centuries, treating particularly of the West, as it was chiefly in the West and South that the regions of the North and East found the elements of their own history. Of course the student of history cannot do without Gibbon, Merivale, Hallam, Milman, Guizot, and other writers of note, but for the student of any single epoch such a volume as the one mentioned above is of more value than a mere outline of the history of a nation. Any of this series may be obtained of Jansen, McClurg & Co., price $1.00 each.

——*The Wolf at the Door* (Boston: Roberts Brothers, $1.00), is one of the "No Name Series," now so popular. It cannot be said to possess any remarkable merit, as a work of art, though it tells a very plain kind of a story, and will be found entertaining to a large class of readers.

REVIEWS.

OUR *National System of Education.* An essay by John C. Henderson, Jr., (New York: Dodd, Mead & Co. Chicago: Jansen, McClurg & Co.)—This is a neat and interesting volume of 131 pages, 93 of which are devoted to the essay, and the remainder to appendices. The essay is divided into four parts, the first sketching the earliest acts of American statesmen in behalf of education; the second showing the various means afforded by the national government for fostering and promoting general intelligence among the people, and citing notable instances of great statesmen who were once connected with the public schools; the third treating of the relations between religion and education, and presenting an argument in favor of Christianity and morality, in the schools as well as out of them. The relations existing between church, school, and state in other countries are also briefly shown. Part IV. pictures the dark side of the scene, showing the great mass of illiteracy which exists in this country and its sad state as compared with that of the learned.

Many facts and statistics are presented by the essayist, which are of permanent value in such a collection. The essay seems to have been prepared with much care, and its summarizing of facts shows very plainly the whole history of education in this country, and its present relation to the prosperity and perpetuity of the national government, as well as to the systems of education in foreign countries.

Behaving; or Papers on Children's Etiquette. By the Author of "Ugly Girl Papers." (Boston: D. Lothrop & Co.)—Mrs. Power, who wrote these excellent papers for *Wide Awake* under the pseudonym of "Shirley Dare," has performed a timely and most admirable work, and will have the thanks of thousands of parents who may have the good fortune to come into their possession. They are particularly timely, as they will help to correct a growing evil among public school children—that of ill manners. The public schools are doing too little to cultivate manners, while they do much to breed rudeness and indelicacy. It would aid teachers very much in their efforts to inculcate good manners if they would carefully read this little book. Its spirit is healthful in every respect, and the interesting story which it tells will be sure to secure its full perusal when once begun. The lessons it teaches will not be lost, even though the book may be read merely for amusement; their impression will remain upon the mind, and a better and purer life will be sure to be the result. Such books as this are what ought to be placed in the hands of young people if they are expected to become manly, dignified, and courteous in character.

Monroe's Primary Reading Charts; First Steps in Reading. (Philadelphia: Cowperthwait & Co. Francis S. Belden, Western Agent, No. 25 Washington Street, Chicago.)—The author of these charts is well known as one of the ablest and most successful masters of the theory and art of vocal culture in this country. He is the author of Monroe's Series of Readers, also recognized as among the very best of their class. As Dean of the Faculty of the College of Oratory in Boston University, and as a Professor of this department, he is probably doing more to improve and elevate to its true rank the art of vocal delivery than any other man on the continent. Himself a finished scholar, he imparts a scholarly finish to whatever he touches. These charts are no exception to the rule. They give evidence of thorough and exhaustive study, and of a careful appreciation of the peculiar needs of the young mind in its first essays at a mastery of another tongue. After a careful examination of the charts and a test of six or eight weeks in the primary class room, they seem to leave little to be desired in the way of "first steps in reading." The series embraces fifty large pages, about 25x30 inches, printed in large clean-cut type, and profusely illustrated in the highest style of the art, upon very strong manilla paper, manufactured expressly for the purpose. The lessons are graded and arranged with extreme care, with copious hints and suggestions to teachers at the foot of each page. They are constructed with reference to the sounds of certain letters which it is desired the pupil should master as he advances, and at intervals lessons in review of previous exercises are interspersed. Silent letters are generally represented by outline characters to distinguish them from those which represent the vocal elements. The illustrations are truly artistic and beautiful, well calculated to cultivate the taste of the pupil in the very outset of his contact with pictorial representations. The charts are mounted between clasps formed by bars of ornamental wood, so that they may be kept together and readily manipulated while in use. We know of no more valuable addition to the means of primary instruction than these charts afford, and we advise all interested in primary education to give Mr. Belden a call at No. 25 Washington street. As a labor-saving device alone these charts are abundantly worth their cost to any primary teacher with wit and wisdom enough to buy and use them.

Economics, or the Science of Wealth. By Julian M. Sturtevant, D. D., LL. D., Professor of Political Economy in Illinois College, and Ex-President of the same. (New York: G. P. Putnam's Sons. Chicago: Jansen, McClurg & Co., pp. 343, $1.75.)—Dr. Sturtevant's single purpose in this volume has been to lay down more clear and exact definitions of some of the fundamental elements and principles of the science of economics. For instance, he assumes that the term "wealth" "is either left without any satisfactory definition, or if a valid definition is given, it is not applied to the whole group of phenomena embraced in it." The words "labor" and "capital" are similarly regarded. With the forming of new definitions he has gone forward in the development of a method which he hopes will be found more logical and more generally acceptable among the people. This logical development he bases upon a single law of nature, viz.: *Every man owns himself, and all which he produces by the voluntary exertions of his own powers.* This idea of ownership he assumes as a simple intuition, originating in the spontaneous action of every human mind, and therefore undefinable. From this principle is deduced another, viz.: *All ownership of material things consists essentially in our unquestioned claim to possess and enjoy the results of that labor which we have expended upon them.* From the development and application of this natural law, two distinct sciences result—ethics and economics. Economics is the science of wealth. Prof. Perry claims that it is impossible to frame any definition of wealth which will render the word fit for scientific use. Archbishop Whately says it is "the science of exchange," but Dr. Sturtevant says that "wealth is anything which can be owned and exchanged for an equivalent." This definition he defends at some length. Labor he defines as "the exertion of man's natural powers, for the purpose of producing such changes as conduce to the gratification of human desire and the supply of human want."

The whole volume is one of deep interest, and he who *thinks* as he reads will find food for his mind for many an hour in reading these pages. They are full of valuable thought, presented in a most attractive form.

NEW BOOKS FOR TEACHERS.

[Publishers may secure an announcement of their new publications in this weekly list by sending copies to the editor. It is desirable that a full description of the book, including price, should accompany it. More extended notices will be made of such as possess merit, or are of interest to teachers.

Any book named in this list may be obtained by forwarding the price to the publishers of THE EDUCATIONAL WEEKLY.]

BAKER'S Labor-Saving System of Accounts, with complete Instructions, combining all the Safeguards contained in Methods of Accounts heretofore in use, and requiring one-third the labor; cont. instructions how to keep accounts never before given in a work of this kind; also containing the information necessary for a complete knowledge of Book-keeping, presented so plainly that students may, by their own efforts, become complete masters of the science. By W. C. M. Baker. Sm. 4to, pp. vii, 190.—*W. C. M. Baker* $3.00

BARDWELL.—An Essay on Methods of Arithmetical Instruction. By F. W. Bardwell. Sq. 18mo, pp. 36. Pap.—*G. P. Putnam's Sons* 15

BEECHER.—The Primary Normal Speller; or, First Lessons in the Art of Writing Words. Designed to teach Spelling by an Improved Method. By A. G. Beecher. 12mo, pp. 124. *Corr. title.* Bds.—*Clark & Maynard* 25

CUMNOCK.—Choice Readings for Public and Private Entertainment, arr. for the exercises of the School, College, and Public Reader, with elocutionary advice. By R. McL. Cumnock, A. M. 12mo, pp. x, 426.—*Jansen, McClurg & Co.* 1.75

FROUDE.—The Life and Times of Thomas Becket. By Jas. A. Froude. 12mo.—*Scribner, Armstrong & Co.* 1.50

LEWIS.—A History of Germany from the Earliest Times. Founded on Dr. Muller's "History of the German People." By Charlton T. Lewis. With maps and ills. 12mo, pp. 799.—*Harper & Bros.* 1.50

POWERS.—The Accountant. For Public Schools and Academies. By M. R. Powers, M. A. 8vo.—*A. S. Barnes & Co.* 1.25

Educational Intelligence.

CHICAGO, APRIL 4, 1878.

THE STATES.

ILLINOIS.—The Cook county board of education is embarrassed by the limited appropriation made for the maintenance of the normal school. It is therefore proposed to dispense with the teachers of vocal music and drawing, abolish the preparatory department, and consolidate such positions as will least affect the efficiency of teaching at the institution.——A movement is on foot in the vicinity of Chicago to unite Lake Forest University and the Theological Seminary under one management, as the educational center of the Presbyterian church of the Northwest.——Miss Edith Z. Ward, for several years a teacher in the Elgin schools, and latterly in California, is Miss Ward no longer. On the birthday of the father of his country, in the city of San Francisco, she passed through the "golden gate" of matrimony, and now calls herself Mrs. A. P. Roache. Her home is in Watsonville, Cal.——N. C. Dougherty, of Mt. Morris Seminary, has been elected superintendent of the public schools at Peoria.——The town of Paxton has been agitated from center to circumference over the matter of school recesses. The principal, Mr. Evans, determined to abolish the out-door recesses, and substitute for them the in-door, five-minute recess at the end of each hour. This plan has worked so admirably in many localities, and has so many moral arguments in its favor, that Mr. Evans determined to make the experiment. Whether he managed the matter with too little tact, or has assistants that are not always ready to "second the motion," does not appear. At any rate there was a division of sentiment, and the war began. The good people of the village took sides and rushed into print with articles that were more vigorous than polite. At last a public meeting was called, and a committee consisting of a dozen good men and true was appointed to take the matter under consideration. Their report appears in *The Record* of the 14th ult., and occupies two columns.——The editor of this department has a few bound volumes of *The Schoolmaster*, for 1874, which he will send post-paid on receipt of $1.25. ——Prof. and Mrs. Wadhams have been engaged for another year to take charge of the high school at Irving Park, Cook county. The question of removing the school from its present location to the village is being agitated. Supt. Lane is said to favor the removal, and it is urged also that most of the pupils come from the village of Irving Park.——An unfortunate occurrence at Monmouth has been mentioned in the public press lately. The faculty demanded of the students that they should renounce their membership in the fraternities, and on their refusing to do so, several of the most prominent members were expelled.——We have a word for our friends the teachers, the county superintendents, and others who are interested in the news items of this department. Like Sam Weller, "our wision is limited." The view which we can get of the state at large from the village where it is our fortune to abide is not extended. The exchanges are carefully scanned each week for educational news, but few items of interest to educational people find their way into the columns of the local papers. Now do not complain because the State Editor of the Weekly doesn't possess supernatural power in the matter of collecting news, but constitute yourselves, "all and singular," correspondents. One cent of the coin of the realm will purchase a postal card. Had we been the prime minister of our venerable Uncle Samuel, we couldn't have devised a better scheme. On the obverse side of this little piece of card board, write the latest piece of interesting news, and directing it to the humble individual in charge of this column, entrust it to the tender mercies of the P. O. department. You will find it here in the next number of the Weekly, to the edification of your brethren and sisters of the craft, and to the great satisfaction of the person in charge, who is trying "in his weak way" to make the "Illinois news" as full and acceptable as possible. Please to cut out the above suggestions and paste in your hat, or pin to the lapel of your coat, not occupied by the red ribbon.——The fight over the high school goes on apace at Danville. C. M. Taylor, a former principal of the schools, contributes an article to the *News*, which strikes us as ill-timed at the present juncture.——The people of Tolono are complaining about the expense of the township high school.——The programme of the State Principals' Society is almost ready for publication. Nearly all the persons elected have signified their willingness to take the parts assigned them.—— The State Laboratory of Natural History, at Normal, is in good working order and invites people from all quarters to come and utilize its superior conveniences. It is unsurpassed in its appliances by any laboratory in the country. This may seem like an extravagant statement, but any one who doubts its truthfulness can be convinced there is no exaggeration if he will come and see. It will be a sad commentary on the enthusiasm of western teachers and students if its facilities are not utilized. Prof. Forbes affords whatever assistance is necessary in the matter of instruction. Correspond with him. A circular letter will soon be sent about the state inviting students to come at any time during the summer.——The winter term of the Illinois Normal School closed March 21. The attendance during the term has been unusually large. Prof. Seymour, Dr. Sewall's successor, has demonstrated his fitness for his position by making an unqualified success of his work.——The Normal public schools closed their winter term March 15. These schools are under the charge of Mr. Joseph Carter, who succeeded Mr. Gove upon his removal to Denver. Ten assistants are employed, and two buildings occupied. These schools are in an excellent condition, and graduate a class of from six to twelve annually.

NEBRASKA.—The following letter from Supt. Thompson to S. G. Lamb, County Superintendent of Lancaster county, contains some valuable information respecting free text-books:

Dear Sir:—To your inquiries regarding the use of free text-books in this state, I reply: In the last report from the counties, made to this department, sixty-one districts are reported as furnishing text-books free to all the pupils in the school. The result of this experiment, so far as I am informed, is highly satisfactory in nearly every case. I have heard of but one district, after trying the plan of free text-books, abandoning it. The particulars of this case I have failed to obtain.

The plan of furnishing text-books by the district is highly commended by the superintendents of Maine, Wisconsin, and Kansas, and seems growing into favor in many states. The plan is now in use in some four hundred districts in Kansas; some three hundred in Wisconsin, and a large number of districts in other states. New York City has tried it forty years; Newark, N. J., forty years; Patterson, N. J., ten years; Fall River, Mass., five years; Lewiston, Maine, six years; Bath, Maine, eight years. In all of these and many more that might be mentioned, the plan seems to work well and to hold its own, as a practical measure.

By those who have had experience in this method of supplying text-books, it is claimed that it is:

1. Cheaper. The books can be bought in quantities at wholesale, thus saving from 25 to 40 per cent on the first cost. The books being used by different pupils till worn out, are used longer before being thrown aside, and thus in the long run fewer books of a given kind are needed. The testimony of the school officers of several cities is given to show that the text-books furnished by the school boards last, on an average, four years. As regards the cost of text-books for pupils, when they are furnished by the public, we have the following statistics:

Lewiston, Maine, in 1874, cost per pupil	$1.10
Bath, Maine, 1873, cost per pupil	1.00
Newark, N. J., average cost per pupil for ten years, per year	75
Batavia, Ill., cost per pupil	40
St. Louis	1 00

These statistics corroborate the universal testimony that free text-books last longer than those furnished by the pupil.

2. When books are furnished by the district, enough may always be on hand at the beginning of the term, and there need be no delay in the work because some pupils are without suitable books.

3. There will be perfect uniformity, and thus the best classification will be possible.

4. Books can be better adapted to the wants of pupils. Children frequently bring to school books not suitable for them to use, but rather than to subject the parent to the expense and trouble of getting a new book, the pupil is allowed to go on using the unsuitable one. Again, pupils in procuring books frequently get not such a book as they want at the time, but one they expect to want before long, and thus the evil of unsuitable text-books is perpetrated. Free text-books would at once enable the teacher to cure this evil.

5. Pupils stay longer in school where books are furnished. Children, as every teacher knows, are frequently withdrawn from school because the parent is unable or unwilling to buy the requisite books. Many pupils are not sent at all for the same reason. Experience shows that free text-books always increase the aggregate school attendance.

6. When changes of text-books are desirable, districts furnishing books can make a change without additional cost beyond what would be incurred in using the old one. When the old books are worn out, the new ones can be purchased to supply their place.

7. Families removing from one district to another will be put to no additional expense when free text-books are furnished. In a new state, where many persons are constantly coming in from other states, this is an item of considerable importance.

All these points of advantage, and some others, are claimed for free text-books. As far as my personal observation and experience has gone, I am inclined to think that they are justly claimed.

I suggest, however, that the success of the plan will depend largely upon the skill and carefulness of those who carry it out. On this point I venture to make a few suggestions, based upon experience:

1. The books should be bought at wholesale, the entire first supply at once, so as to get the best possible reduction in price.

2. A few more should be bought and kept on hand than are needed.

3. Each book should be covered with heavy, strong paper, and should have a label with the name of the district pasted on inside of the cover.

4. All the books should be counted and their condition observed at the beginning of the term, and the teacher required to keep a record of all loaned to pupils.

5. Books in use should often be examined by the teacher, to see if suitable care is exercised in using them.

6. Pupils who prefer to purchase books should be allowed to do so at cost to the district.

7. Where the school-house cannot be securely locked, a strong case for the books should be constructed with as many compartments as there are pupils. In this books could be deposited at night and made safe from harm. Each pupil's books being in a separate compartment, no confusion would result from getting their books in the morning.

8. Districts desiring to purchase books should vote for it at the annual meeting and make requisite arrangements to secure the necessary funds.

Yours truly, S. R. Thompson.

MAINE.—The Hallowell Classical school is not in a very gratifying condition *financially*. The interest on the present debt is now about $1,500 annually, and unless some one comes to its relief it must be abandoned.——The East Somerset Educational Convention held its regular session at St. Albans 22d ult. Mr. Corthell, State Superintendent, delivered a very able and instructive lecture. The President is J. O. Bradbury, of Hartland, Secretary, M. J. Merrill, of Harmony.——Brooks is asking for a free high school.—— Deering votes to abolish the district system and adopts the town plan—whereby the S. S. Committee employ and examine all teachers.——One hundred and ninety-one free high schools in Maine now.——The spring term of Colby University opened with a smaller attendance than usual, some being de-

tained by teaching. The Literary Fraternity is now under the full control of the students. It has quite a large library which is free to all members of the society. Debates hold a very prominent place in the exercises of its weekly meetings. The new constitution lately adopted offers a good opportunity for successful development.——Mr. Albro E. Chase has been unanimously elected Principal of the Portland high school.——The spring term of the Castine Normal School opened March 12, with a very large attendance.——The spring term of Westbrook Seminary commenced February 26 with about eighty scholars. Corps of teachers same as last year.——Prof. F. E. C. Robbins, for five years principal of the Westbrook high school, has resigned.——Miss. Emily F. Maxfield of Deering, had her arm broken recently by an unruly boy.——The Portland *Press* speaks in high terms of Miss Maude B. Wilbur, the first assistant of the Westbrook high school.——Yarmouth has an excellent teacher in Mr. E. R. Goodwin, a graduate of Bowdoin.——Portland has a population of 36,618. There are 10,800 scholars, 23 schools—1 high, 8 grammar, 12 primary, 109 teachers in all. Average cost per pupil enrolled, $12.40. Average per cent attendance, .93.——The trustees of the Bridgton Academy are planning to reopen the school at an early day.——Miss Florence A. Jewett opened a high school, March 4, at Turner.——The spring term of the Hallowell Scientific Academy opens April 3.——The will of the late Rev. Daniel Austin of Kittery gives to Harvard College $5,000 and Dartmouth College $3,000 and one-third of residuary estate to the city of Portsmouth to adorn the place.——Gorham voted unanimously and with great enthusiasm to raise $15,000 in aid of the normal school to be located there. Col. Robie made a most eloquent and effective speech in its behalf.——Mr. H. M. Pratt has been elected associate principal of the Fall River high school.

MICHIGAN.—Dr. Douglass, of Ann Arbor, has filed a bond for $4,000 and asked an appeal to the supreme court of the state of the case of the regents of the University *vs.* Rose, Douglass, *et al.*——Prof. W. M. Osband and his wife, both members of the faculty of Albion College, have been obliged to discontinue their labors as such for the remainder of the year, on account of the illness of Prof. Osband. J. F. Dutton, of the class of '72 of the University, takes his place temporarily.——A $9,000 school-house is to be built at Whitehall.——After considerable discussion, the seniors at the University decided to celebrate class day according to the usual programme.——The following letter was written by a school director in the interior of the state to a young lady school teacher. He is one of the kind who believe in the ten-cent kind of teachers: "MISS—Are you in gaged fore the Summer too teach chool Iff not doo you want ower Chool too teach this coming Summer & iff you want it What will bee your price per Weak Wee hyor thee teachors Board write by thee midell off thee weak iff you want Thee chool Respectfully yours, etc. P. S. I want too know your lowest Figuars. feb thee 23 1878."——The superintendent of the State Public School at Coldwater has issued a circular appealing to the people of Michigan to coöperate in his work of teaching the neglected and dependent children, which are constantly collecting at the State Public School, into respectable families. He says that homes are wanted for boys of the average age of about nine years. Good girls over ten years of age find homes readily. All people desiring to take children from the school must bring recommendations from the state agent of their county.——The Chicago *Evening Journal* says: "It is really refreshisg to learn that in pursuance of an act by the Michigan legislature, Michigan University is now erecting a small observatory, near its main buildings, which is to contain an equatorial telescope of six-inch aperture, and a transit instrument, with zenith telescope attachment, so mounted as to be used either in the meridian or in the prime vertical; and that these instruments are for the specific purposes of *instruction*. Connected with this observatory is a building containing computing rooms, and a work-shop where attachments for the instruments can be made—the students observing and assisting. Now the main observatory can be exclusively devoted to strictly scientific uses, and nobody will complain."——The institute at Cedar Springs closed April 5. Ninety-four teachers enrolled. A spirit of genuine work pervaded the entire session. One hundred and twenty-five different teachers were present during the week. The teachers of Kent county are a unit in regard to the utility of institutes. Kent county has one live superintendent. A. D. Chesebro of Paris, who said some valuable things to the teachers assembled.

WISCONSIN.—The State Board of Examiners for teachers' state certificates, for the current year, have been chosen by the State Superintendent as follows: Prof. Albert Salisbury, Prof. S. H. Carpenter, and Geo. W. Peckham. The annual examination will be held at Madison the second week in August, at 9 o'clock A. M. Chemistry will be dropped from the list of subjects. Applicants for certificates will be examined in the following branches of study: (1.) For an UNLIMITED State Certificate, the branches now required for a first grade County Certificate, with the addition of English Literature and the rudiments of Botany, Geology, Political Economy, General History and Mental Philosophy. This Certificate will be issued only to those who furnish satisfactory evidence of successful teaching for at least NINE terms. (2.) For a LIMITED (five years) State Certificate, the branches now required for a first grade County Certificate, with the addition of English Literature and the rudiments of Mental Philosophy. This Certificate will be issued only to those who furnish satisfactory evidence of successful teaching for at least THREE terms. Applicants who fail m any of the branches required for either of the above certificates may present themselves for reëxamination in such branches within one year. A reëxamination in those in which they are successful will not be required. Candidates who last year failed in any branches, or did not complete their examination for either certificate, are earnrstly solicited to be present with the new applicants this year. All stationery needed will be furnished by the Examiners. There will be three sessions daily—9:00 A. M. to 12:30 P. M.; 2:00 to 5:30 P. M.; 7:30 P. M. to 9:30 P. M. Following will be order of examination: *Tuesday, August 13.*—United States History, Arithmetic, Geography, Civil Government, and Oral Exercises. *Wednesday, August 14.*—Algebra, Physiology, Reading, English Grammar with Analysis, Penmanship, and Oral Exercises. *Thursday, August 15.*—Geometry, Natural Philosophy, Orthography and Orthoepy, English Literature, Theory of Teaching, and Oral Exercises. *Friday, August 16.*—Mental Philosophy, General History, Geology, Political Economy, Botany, and Oral Exercises.——Mr. J. A. Comstock, agent in Wisconsin for A. S. Barnes & Co., has just closed a contract for Independent Readers and Steele's works with the city board of Sheboygan. Not long since, a similar contract was made with the board at Waukesha. Oconomowoc has also recently taken the Independent Readers.

IOWA.—The state legislature has made a permanent endowment of $20,000 a year to the State University, and $10,000 for repairs and improvements. This is in addition to the endowment fund arising from the sale of University lands donated to the state by the United States.——The Iowa legislature has abolished the preparatory department of the State University.——Prof. C. E. Bessey, of the Agricultural College, advocated the appointment of a state entomologist, but the legislature remained silent upon that question.——The secretary of the Dubuque school board receives an annual salary of $1,200; the secretary of the Davenport school board gets $750, and Clinton pays her secretary $100 for the same time.——Our Clinton friends have been discussing school affairs with some warmth lately. There is no use of wasting your time over the matter. You cannot have good schools unless you have good teachers, and you cannot get good teachers unless you pay reasonable salaries.——The Lyons school board recently directed its secretary to inform the teachers that all excuses for tardiness or absence coming from the parent or guardian shall be accepted without comment or disapprobation manifested by word, look, or gesture."——Muscatine is going to have three new school buildings this year. Davenport will be content with one.——The public schools of Iowa cost last year $4,356,776.16. Of this, $2,784,099.53 was paid to teachers, $891,945.23 for school houses. About half of the four millions came from district taxes.——Next year there will be no Greek, Latin, French, or German, taught in the Council Bluffs public schools. Music and penmanship will be taught by the regular teachers of other branches.——Clinton is going to have her school rules and regulations printed in pamphlet form. Be warned by Davenport, gentlemen, and secure a good proof reader.——The proceedings of the Iowa State Teachers' Association have been published by Messrs. W. J. Shoup & Co., of Dubuque. The work is well done, and reflects credit upon the publishers of the *Normal Monthly*.——A deficiency of $1,100 is said to have been discovered in the accounts of the late superintendent of schools of Jackson county.

MINNESOTA—A teachers' institute will be held at Elk River beginning May 6, to be conducted by Prof. Kiehle.——Prof. R. W. Laing, of the State University, will visit St. Cloud, Sauk Center, Alexandria, Willmar, Litchfield, and Glencoe, during the month of June, to examine applicants for admission to the University.——At the last meeting of the State Normal Board a committee was appointed to visit each school and to report to the Secretary of the Board upon the present condition of the schools. They were to report more particularly upon the work of the schools in connection with the state system of public instruction. For service on each of these committees one county superintendent of schools and two principals of high schools were selected. The committee which visited and reported on the St. Cloud Normal School were Prof. Wm. F. Gorrie and George F. Cowing. They reported the school thoroughly organized and under excellent discipline. There are 117 students under instruction. They are cheerful, contented, and industrious. A spirit of confidence and coöperation exists between teachers and pupils. The daily sessions begin at 8:30 A. M. and close at 12:30 P. M. The school is in need of a library and apparatus for illustrating natural science. The school has the confidence and support of the people in general and is creating a higher educational sentiment throughout that part of the state.——The last meeting of the teachers' association at Maine Prairie was not largely attended, on account of the bad state of the roads. The exercises were conducted by W. A. Shoemaker, Nellie Kimball, S. F. Brown, Frank Patch, and Mr. and Mrs. Atwood.

KANSAS.——The Board of Regents of the Emporia Normal School recently held a meeting, the object of which was to further arrangements for the sale of lands appropriated for the benefit of the school. They are endeavoring to make the school self-sustaining until the lands can be disposed of and a sufficient fund raised to make a permanent endowment large enough to successfully carry the school on in the future without state aid.——The State Grange educational report contains the following county normal institute statistics, obtained from the State Superintendent's office: Institutes have been held for one month or longer in fifty-seven counties; the average attendance has been of over sixty-six teachers in each institute, and the whole number of teachers in the state who have received the benefits of these county normal institutes has been 3,780.——O. B. Wharton, the superintendent of Lyon county, has published several numbers of a folio sheet called the *Hatchet*, devoted chiefly to the educational interests of that county. Mr. Wharton is doing a very valiant service for the cause, and has a cordial support from the citizens. He will accept our thanks for frequent subscriptions for the WEEKLY and PRACTICAL TEACHER.——The school laws of Kansas contain a provision that if the school district fund is insufficient to pay the teacher, a tuition fee is to be levied upon the pupils.——The State Agricultural College, at Manhattan, is a growing institution.——In Leavenworth the public schools have but one session a day. The grades from the seventh to the tenth are in session from 9 A. M. till 12:30 P. M.; the other grades continue till 2:30 P. M., with a recess of twenty minutes.

Practical Hints and Exercises.

DERIVATION OF THE NAMES OF THE STATES.

MAINE is named after a province in France.

New Hampshire for a county of England.

Vermont is a name derived from the French, *"verd mont,"* meaning "Green Mountain."

Connecticut takes the Indian name of its river, *Quenehstocut*, which means "long."

Massachusetts is so called from a tribe of Indians and a bay on its coast, meaning "in the country about the great hills."

Rhode Island was named after a small island in Providence Bay, which was named after the Isle of Rhodes.

New York received the name of the Duke of York, brother of Chas. I., to whom a grant of the province was made.

New Jersey was so named after an island in the British Channel, in honor of Sir Geo. Carteret, who had been governor of that island.

Pennsylvania was named by Chas. II., in honor of William Penn's father. The name signifies "Penn's woods."

Lord De la Ware, or Delaware, entered Delaware Bay in 1610 and gave his name to the bay, river, and state.

The Virginias were so called in honor of Elizabeth, the Virgin Queen of England.

Maryland took the name of Queen Mary, wife of Chas I., of England.

The Carolinas were named for Chas. II., of France, taking the Latin form of his name, Carolus.

Georgia has for sponsor George II., of England.

Florida was so called by Ponce de Leon, both because of its appearance, "florida" meaning "flowery," and because he discovered the country on Easter Sunday, *Pascua Florida*, (or Spanish *pasquas de flores*, feast of flowers).

Alabama is an Indian name, meaning "here we rest."

Mississippi is called after the river of that name, signifying, "Father of waters."

Louisiana is named after Louis XIV., of France.

Texas is a Mexican name, signification unknown.

Tennessee is the Indian name for "the river of the big bend," i. e., the Mississippi, its eastern boundary.

Arkansas is from "Kansas," the Indian for "smoky water," and the French *arc*, "bow."

Kentucky, from the Indian "Kan-tuck-ee," means "dark and bloody ground," so called because it was the scene of fierce struggles for possession, between the whites and the natives.

Ohio takes the name of the river of its southern boundary, signifying "beautiful."

The many Indian tribes living there gave the title to Indiana.

Illinois is derived from the Indian word Illini, or Leni, meaning "great or superior men." The termination is French.

The name Michigan is a contraction of two Chippewa words which mean "Great Lake."

Minnesota, of Indian derivation, means "whitish water."

Wisconsin means "broad and rushing." The stream gave the name to the state.

Iowa means "this is the land."

Missouri, named from the river, means "muddy."

Kansas is named from its principal stream.

Nebraska means "broad and shallow," or, "low," first applied to the river.

Colorado means "ruddy." The name was given by the Spaniards to the river on account of the color of the water.

Nevada means "snowy," a Spanish name bestowed on the mountain range.

California is named from the gulf and peninsula south.

Oregon derives its name from its chief river.

Authorities for the above, American Encyclopædia, and Charles Bancroft's "Foot-prints of Time."

A. H. L.

—We are desirous of obtaining the names and post-office addresses of as many teachers as possible in the United States, and shall be glad to receive written or printed lists of such teachers from superintendents. For every hundred names we will furnish THE PRACTICAL TEACHER one year.

"LANGUAGE."

MARY P. COLBURN, South Boston, Mass.

WHAT is *language?* In the accepted term, it is the means we use to convey to others our meaning. So then, in accordance with this off hand definition, there is no need of going to school to learn language, for when John tells you that "Jim fished his coat 'n hooked his flinger,"—you know as well as can be that the little vagrant has committed himself to the unlawful possession of a ball,—that is, you know it, *provided you understand the language!*

But in order to prevent this "purlieu slang" from becoming the "universal language," it should be our end and aim, while in contact with our little ones, to teach them *polite speech* from the very beginning. No need of books for this important work,—no need to set up classes in "orthography, etymology, syntax, or prosody,"—the bare fact of using the English language purely, yourself, in their presence, and *insisting upon the use of it on their part*, will do seven-eighths of the work, and pave a way almost golden for the use of the book, when they shall be well up in the grammar school.

I well remember my own experience when good old "Smith's" grammar was put into my hands. I believe the very first sentence which caught my eye in looking through it casually was this:—"To see the sun is pleasant," and the cheeriness of that has followed me as a sentiment through life. My point is that children are put to the study while they are yet too young to gather the meaning of what is before them, and of too tender years to grapple with its *abstrusenesses*, anyhow.

By far the better way is to require at their hands grammatical sentences whenever they speak at all, and proper forms of speech—letting the literal "forms of speech" rest yet a little longer between the covers of the grammar on the bookseller's shelves. "I hain't got no pensle!" "He *thrung* me down and *crushed* I" "I *brang* it this after!" "I've got mine!" "I *seened* him a' comin'!" and a hundred other equally unique phrases meet one at every turn. *They* know what they mean, and you, by constant familiarity, also know,—but the teacher has it in her own hands to bring about a better state of things and make a purer form of every-day language.

Once on a time, I overheard the emphatic remark of a young man of seven, who had the important charge of the outer door, before the bell rung for school. The orders were not to admit the boys, but they plagued him and clamored for admission till he, exercising all his authority, delivered himself after this fashion:

"There! I won't let in another *feller* unless its a teacher!"

What had *we* done to be classed thus? I don't think I hung my head in humiliation when I appeared before the young autocrats, but I *did* make up my mind that I could separate these two in the estimation of my pupils, and regulate, in a degree, the *form of speech*.

I asked a tardy boy, once, why his father didn't come home to dinner, instead of his being obliged to take it to him,—"*He didn't be let!*" was the unhesitating answer! Will Smith, Murray, Greene & Co. please parse that?

Before a child can talk plain is hardly too early to begin to teach him grammar! There, is that a firebrand? But I mean to say that one needn't wait for the little one to go to school before he is taught to let cant phrases alone, and to express himself properly. Of course, I cannot refer to our ignorant masses who *must* wait till they go to school in order to get anything like correct forms of phraseology;—but there is too much carelessness in other circles. The double negative is aboundingly common; singulars and plurals are hopelessly mingled; the poor, inoffensive *g's* are sunk so low they hide away forever; and questions are put as demands, with all the "*pleases*" lost sight of!

All this is *language*, and it is as easy, and a thousand times more graceful and agreeable, to institute such forms of speech among our little Arabs as shall do away with these errors—as it is to quietly submit, for a term of years, to tolerating them, and then trust to books, and rules, and grammar schools, to break up habits so firmly fixed.

I am convinced that in the primary school is the place to sow the seeds—not only of the thousand and one things which are unblushingly demanded now—but of the rudiments of grammar, which is nothing more nor less than correct forms of speech. The teacher, for instance, should never allow a child to take anything from her hand without a "Thank you," and equally with this, return the acknowledgment herself. Things should not be *demanded*, they should be *requested*, giving the little one the unconscious feeling of bestowing a favor;—thus lessening the need of enforced discipline, for that is what it really does. Do you say you can't keep school so? Try it and see.

I have seen a young teacher—and one, too, who was trying very hard to be an acceptable one,—walking the floor by the hour, with a long rattan in her hand, as a symbol of authority, while she undertook to hear recitations! On inquiry, she told me it was the only way she could keep them in their seats—to let them see that stick constantly at hand! Children are great discerners, and do you think their eyes twinkled for nothing as they stole sly glances at one another? They *knew* that this authoritative manner wasn't the way to govern them! A few pleasant words and the sense that they could be of service in some way would have secured the discipline, and that rattan might have coiled away deep in the darkness. Has this nothing to do with our subject? Are *language* and *discipline* nothing to each other?

QUERIES AND ANSWERS.

To Correspondents.—Make your answers as brief as possible and not sacrifice clearness. Never send an answer or a question on a postal card. Never make any cancellation marks in your solutions. *Always revise your answer before sending*, to see that it is perfectly clear and contains no errors. The shortest and best answers will be published in preference to others. When it is possible, send your own answer when you send the query. Make as few diagrams as possible. Write only on one side of the paper.

ANSWERS.

4. Four persons live at the respective contiguous corners of a public square on which stands a school-house to which A has to go 30 rods, B 40 rods, and C 50 rods. What distance does D live from the school-house?

D. H. D.

Conceive lines to be drawn from the school-house to each corner of the square, thus dividing the square into four triangles. Call the one having for two of its sides the lines representing the distances of 30 and 40 rods, A, and call the one on the opposite side of the square B. In these two triangles suppose a perpendicular let fall from the common vertex of each on their respective bases, thus dividing each base into two segments, and each triangle into two right angled triangles.

Let q = each of the shorter segments; r = the longer; p = the perpendicular in triangle A; s = the perpendicular in triangle B; and x = the distance D lives from the school-house.

Triangle B has for two of its sides the lines representing the distances of 50 rods and x rods, and whether x is greater or less than 50 depends upon which of the two corners on that side of the square D lives on.

Assume x to be greater than 50.

Then in triangle A, $r^2-q^2=40^2-30^2=700$; (1)

Also in triangle B, $r^2-q^2=x^2-50^2$. (2)

$x^2-50^2=700$ by comparing (1) and (2).

$x=\sqrt{3200}=56.5685$ rods.

Assume x to be less than 50, the square in this case being smaller than in the preceding supposed case.

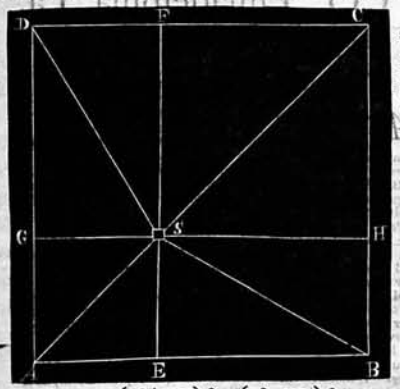
Then in triangle A, $r^2-q^2=40^2-30^2=700$; (1)

Also in triangle B, $r^2-q^2=50^2-x^2$. (2)

$700=50^2-x^2$ by comparing (1) and (2).

$x=\sqrt{1800}=42.4264$.

In this problem the retangular plat is not necessarily a square, but may be any oblong rectangle with sides of almost unlimited varying proportions between a square and a rectangle 80 rods long and $\sqrt{700}$ rods wide, if x is greater than 50, or 72.4264 rods long and $\sqrt{700}$ rods wide, if x is less than 50. A.



Let ABCD be the square and S where the school house stands. Draw GSH and ES F parallel to the sides of the square. Let x = the side of the square, then AB: BS+AS :: BS−AS: BE−AE, or $x:70:10=\frac{700}{x}$. Then $BE=\frac{x}{2}+\frac{700}{x}=\frac{x^2+700}{2x}=GS=DF$, and $AE=\frac{x^2-700}{2x}$. Similarly with the triangle BSC, we find $BH=\frac{x^2-900}{2x}=ES=AG$, and $HC=\frac{x^2+900}{2x}=SF=GD$. Then $\overline{EB}^2+\overline{BS}^2$ or $\left(\frac{x^2+700}{2x}\right)^2+\left(\frac{x^2-900}{2x}\right)^2=1600$ (1). Expanding (1) and reducing, we obtain $x^4-3400x^2=-650000$. Completing square and extracting root, $x^2=3196.66$ ∴ $x=56.54$ rods, side of the square. $AE=\frac{x^2-700}{2x}=22.08=GS=DF$. $HC=\frac{x^2+900}{2x}=36.228=SF$. $\sqrt{(\overline{SF}^2+\overline{DF}^2)}=DS=\sqrt{(\overline{36.228}^2+\overline{22.08}^2)}=42.426$=distance D must travel to get to the school house.

Note.—This problem will admit of six answers by changing the order of the numbers. Three answers are found when the school-house is within the square, and three when it is without. J. D. Williams.

J. A. Holmes, of Wenona, Ill., submits a solution of this problem, making x equal 42.19 rods, and asks, "What is the side of the above square?" Mr. Holmes errs in placing the unknown quantity, x, opposite the shorter hypothenuse, 30, and so destroys the condition of the problem, that the school-house is located in a *square;* his solution would be correct if a parallelogram would satisfy this condition. The side of the square should be 56.536+rods. Distance D lives from school-house, 42.4247+rods.—Ed.]

39. Three persons are living in respect to each other in the form of a right angled isosceles triangle. Between them they have a school house to which A has to go 30 rods; B 40 rods, and C 50 rods. What distance do they live from each other respectively?

D. H. D.

To solve this problem we have but to find the dimensions of the sides and diagonal of either of the squares in the fourth answer above. We, therefore use the same diagram.

Observe that r^2-q^2 in the above solution $=(r-q)(r+q)=700$, or,

$r-q=\frac{700}{r+q}$ in both squares. (1)

$\sqrt{40^2-r^2}=p$ in both squares. (2)

$\sqrt{50^2-r^2}=s$ in the smaller square (3)

$r+q=p+s$ in both. (4)

Also observe that the lines representing the distances of 50 rods and 30 rods in the smaller, and of 30 rods and 56.5685 rods in the larger square, are nearly in the same straight line, and are therefore approximate diagonals of their corresponding squares. Take the smaller square and assume 50+30=80 rods to be its approximate diagonal.

Then $\sqrt{\frac{80^2}{2}}=56.5685$ rods, an approximate length of a side of the smaller square. Substitute this assumed value of $r+q$ in (1), and we have

$r-q=\frac{700}{56.5685}=12.37438$

$r+q=56.5685$. Adding these two equations and reducing; $r=34.4714$ $r^2=1188.2798$. Substituting this value of r^2 in (2) and (3), and reducing, we have $p=20.29$, $s=36.21767$, and $p+s=56.50767$, which is less than the assumed value of $r+q$ by one-half the difference, more or less, between 56.5685 and 56.50767, but by the conditions of the question there should be no difference. To correct this error, divide the sum of these two numbers by 2. This gives 56.538085 for a new assumed value of $r+q$, with which proceed as before, and so on until $r+q$ and $p+s$ agree to any number of decimal places desired. The third trial gives $r+q=56.5390$ and $p+s=56.5391$—both agreeing to three decimal places. ∴ 56.539 rods is the length of a side of the middle square, and $\sqrt{(56.539^2\times 2)}=79.958$ rods is its diagonal.

In like manner a side of the larger square is found to be 60.7149 rods, and its diagonal $\sqrt{(60.7149^2\times 2)}=85.856$ rods. Hence the two equal sides of the isosceles triangle are either 56.539 rods, or 60.7149 rods, and the hypothenuse either 79.958 rods, or 85.856 rods.

Either A or B lives at the right angle according to which way the diagonal is drawn. A.

OFFICIAL DECISIONS.

IOWA.

Persons illegally holding office cannot be considered as belonging to the board, hence a quorum will consist of a majority of those legally holding office.

2. Each sub-district has a claim upon its school house. The removal, if desired, should be ordered by the district township meeting.

3. The board of directors may instruct the sub directors to contract to pay teachers at the close of each month.

4. "As the law fixes the day of the meeting of the electors of the district township, and also of the sub-district, a failure to give full notice, or any notice at all, though a violation of law, will not invalidate the proceedings of the meeting, if one be held at the usual time and place." *Dishon vs. Smith*, 10 Iowa, 212.

5. The law does not provide that the board of directors are compelled to give scholar or parent notice or chance for defense, before ordering the suspension or expulsion of the scholar. The board have large discretionary powers. This is one of the matters which come wholly within their discretion.

Des Moines, Feb. 22, 1878.

1. The board alone have power to fix the number of months beyond the period required by law that the schools in their district shall be taught, and to regulate the wages to be paid teachers.

2. The board cannot authorize the treasurer to loan money belonging to the district.

3. The school year should be regarded as beginning on the third Monday in March, when a new board of directors enter upon their duties.

4. In case of an omission to elect, a tie vote, or a failure or refusal to qualify, the present director holds over for the full term for which his successor would have held, and should qualify anew.

C. W. von Coelln, *Supt. Public Instr.*

Des Moines, March, 19, 1878.

PUBLISHERS' DEPARTMENT.

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